

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A process for identifying inhibitors of a eukaryotic human potassium channel,

a) providing a mutated *S. cerevisiae* cell which does not express the three endogenous potassium channels TRK1, TRK2 and TOK1 and which is not complemented by an expressed HERG1;

b) treating said mutant with a eukaryotic human potassium channel aside from HERG1 wherein said eukaryotic human potassium channel is expressed heterologously in this mutated *S. cerevisiae* cell;

c) incubating the *S. cerevisiae* cell expressing the eukaryotic human potassium channel together with a substance to be tested; and

d) determining the effect of the substance to be tested on the eukaryotic human potassium channel, wherein a decrease in the transport of potassium across the eukaryotic-human potassium channel indicates that the substance is an inhibitor of the eukaryotic human potassium channel.

Claim 2 (previously presented): The process as claimed in claim 1, wherein the genes TRK1, TRK2 and TOK1 are switched off in the mutated *S. cerevisiae* cell (Δ trk1, Δ trk2, Δ tok1).

Claim 3 (cancelled)

Claim 4 (currently amended): The process as claimed in claim 1, wherein the eukaryotic human potassium channel is Kv1.5 or gpIRK1.

Claim 5 (currently amended): The process as claimed in claim 4, wherein the eukaryotic human potassium channel is mutated.

Claim 6 (currently amended): The process as claimed in claim 2, wherein the eukaryotic human potassium channel is present in a yeast expression plasmid.

Claim 7 (previously presented): The process as claimed in claim 2, wherein the mutated *S. cerevisiae* cell expresses constitutively a growth reporter.

Claim 8 (currently amended): The process as claimed in claim 7, wherein the substance to be tested, which has an effect on the eukaryotic human potassium channel, inhibits the growth of the mutated *S. cerevisiae* cell.

Claim 9 (currently amended): The process as claimed in claim 7, wherein the effect of the substance to be tested on the eukaryotic human potassium channel is determined by measuring the cell count of the mutated *S. cerevisiae* cells.

Claim 10 (previously presented): The process as claimed in claim 9, wherein the cell count is determined via the fluorescence or luminescence of the constitutively expressed growth reporter.

Claims 11-19 (cancelled)

Claim 20 (currently amended): A process of identifying activators of a eukaryotic human potassium channel,

- a) providing a mutated *S. cerevisiae* cell which does not express the three endogenous potassium channels TRK1, TRK2 and TOK1 and which is not complemented by an expressed HERG1;
- b) reacting said mutant with a eukaryotic human potassium channel aside from HERG1 wherein said eukaryotic human potassium channel is expressed heterologously in this mutated *S. cerevisiae* cell;
- c) incubating the *S. cerevisiae* cell expressing the eukaryotic human potassium channel together with a substance to be tested; and
- d) determining the effect of the substance to be tested on the eukaryotic human potassium channel wherein an increase in the transport of potassium across the eukaryotic human potassium channel indicates that the substance is an activator of the eukaryotic human potassium channel.

Claim 21 (currently amended): A process of identifying activators of a eukaryotic human potassium channel,

- a) providing a mutated *S. cerevisiae* cell which does not express the three endogenous potassium channels TRK1, TRK2 and TOK1 and which is not complemented by an expressed HERG1;

- b) reacting said mutant with a eukaryotic human potassium channel aside from HERG1 wherein said eukaryotic human potassium channel is expressed heterologously in this mutated *S. cerevisiae* cell;
- c) incubating the mutated *S. cerevisiae* cell expressing the eukaryotic human potassium channel together with a substance to be tested in the presence of an inhibitor of the eukaryotic human potassium channel; and
- d) determining the effect of the substance to be tested on the eukaryotic human potassium channel wherein an increase in the transport of potassium across the eukaryotic human potassium channel indicates that the substance is an activator of the eukaryotic human potassium channel.

Claims 22-25 (canceled)